

CLAIM

1. A method of generating test bitstreams to test a bitstream decoder arranged to decode bitstreams generated in accordance with a predefined syntax, comprising the 5 steps of:
  - (a) generating test code from the syntax, the test code being arranged when executed to generate a test bitstream dependent on values assigned to a plurality of variables, each variable having a number of interesting values;
  - (b) executing the test code, including the step of, for each of said variables, 10 assigning that variable one of its interesting values, thereby generating a test bitstream dependent on the interesting value assigned to each variable.
2. A method as claimed in Claim 1, wherein said step(b) is repeated until each 15 variable has been assigned each of its interesting values, whereby a set of test bitstreams are generated.
3. A method as claimed in Claim 2, wherein each variable has a first set of interesting values for use in generating supported bitstreams supported by the bitstream decoder, and a second set of interesting values for use in generating 20 unsupported bitstreams that are valid having regard to the syntax but not supported by the bitstream decoder, and the test code is executed to generate a set of supported test bitstreams and a set of unsupported test bitstreams.
4. A method as claimed in Claim 1, wherein at least one of said plurality of 25 variables is defined by the syntax.
5. A method as claimed in Claim 4, wherein the bitstream decoder supports said at least one variable having any value from a set of non-overlapping continuous ranges.

6. A method as claimed in Claim 5, wherein, when generating supported bitstreams supported by the bitstream decoder, the interesting values of said at least one variable are the boundary cases of each range in the set.
- 5 7. A method as claimed in Claim 5, wherein, when generating unsupported bitstreams that are valid having regard to the syntax but not supported by the bitstream decoder, the interesting values of said at least one variable are those values adjacent to, but outside of each range in the set.
- 10 8. A method as claimed in Claim 1, wherein at least one of the variables is an internal variable used to control execution of conditional operations within the test code.
9. A method as claimed in Claim 8, wherein each internal variable may take any value within one or more ranges of values, and the interesting values for the internal variable are the boundary cases for each range.
- 15 10. A method as claimed in Claim 1, further comprising the step of generating one or more tables containing the interesting values of each variable.
- 20 11. A test bitstream generator for generating test bitstreams to test a bitstream decoder arranged to decode bitstreams generated in accordance with a predefined syntax, comprising:  
a processor arranged to execute test code generated from the syntax, the test code being arranged when executed to generate a test bitstream dependent on values assigned to a plurality of variables, each variable having a number of interesting values;
- 25 value determination means, responsive to execution of the test code, to assign to each variable one of said interesting values;
- 30 whereby a test bitstream is generated dependent on the interesting value assigned to each variable.

12. A computer program operable to configure a processing unit to perform a method of generating test bitstreams as claimed in Claim 1.

5 13. A carrier medium comprising a computer program as claimed in Claim 12.